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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

GEREZGIHER, YEMANE M

ART UNIT PAPER NUMBER

2142

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/629,424

Applicant(s)

PARK, JOON-WOOK

Examiner

Yemane M Gerezgiher

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/31/2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 and 6. 6) ☐ Other: _____

DETAILED ACTION

1. This application has been examined. Claims 1-24 are pending.

Drawings

2. Figures 3 and 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, recites, "... informing a control device which establish the connection between the first and second device ... wherein the **control device is one of the first device, the second device and the third device**" (claim 1, line 7-8), it is not clear what the inventive entity is trying to encompass by stating the control device being one of all (1st, 2nd and 3rd) devices.

For examination purposes, the examine will broadly interpret the phraseology "control device is one of the first device, the second device and the third device" to mean a control device connected to the devices through the digital interface.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 - 14 and 20 – 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Saito (U.S. Patent Number 6,275,889).

As per claims 1, 11 and 20, Saito disclosed a connection control apparatus comprising plurality of AV devices connected through a predetermined digital interface which complies with the IEEE 1394 bus standard and a predetermined data transmission format (IEC 61883) (claims 4, 12, 14 and 22) controlling each device connected via the digital interface and where the device comprised a control flag register and a control information register by storing the status of connections of the present device by notifying a controller connected to the AV devices transmitting the status of a device and the status of connection of the other devices to one another via

the digital interface. See abstract and col.5, lines 11-15. Saito disclosed a command structure that complied with AV/C command transaction sets (claim 13 and 21). See col. 3, lines 20-25 and col. 9, lines 1-28.

Saito furthermore disclosed a *"connection control apparatus connected to an IEEE 1394 bus for controlling a connection between apparatuses each having a plug control register, the connection control apparatus comprising a plug control register controlling section for transmitting/receiving packets through the 1394 bus to control the plug control registers of other apparatuses and to generate connection information between the apparatuses, a control information register for storing the connection information generated by the plug control register controlling section, a control flag register for indicating a presence of an update of the control information register and an amount of information in the control information register, an apparatus control section for transmitting/receiving packets through the 1394 bus to control operations of those apparatuses connected to the 1394 bus, and an apparatus control right judging section for collecting values in the control information register and the control flag register with respect to all the apparatuses connected to the same bus to determine those apparatuses whose controls are to be allowed and to inform the apparatus control section of those apparatuses"*. See col. 5, lines 34-54. Saito taught transmission/reception of AV/C commands using a digital interface in accordance with the Function Control Protocol agreed in the IEC 61883 standard and a controller *"connection control apparatus"* establishing or releasing a connection between devices connected through the digital interface, where the connection status included an

Art Unit: 2142

identifier of a destination device connected therein. See col.3, lines 1-48. Saito showed P2P (point to point or unicast) and P2MP (point to multi point or multicast) connection utilizing plug control registers (PCRs) and disclosed a P2P connection where oPCR of a device is connected through an isochroous channel to iPCR of another AV device control information register field showing whether the plug control register is output plug control register or input plug control register, having a bit field of both oPCR and iPCR as defined in IEC 61883 which specifies how the data should be carried over IEEE std 1394 high performance serial bus commonly known as "Firewire" and operands designating bit fields of the oPCR and iPCR (claims 23 and 24). See col.5, lines 62-67, Figs. 2-9, 10.c, 10.d, 12 and 13. Saito disclosed informing a control device regarding status changes based on the PCR (plug control registers of output plug control register and input plug control register based on the standard IEC 61883 Format consisting the bit fields of oPCR and iPCR of the connection including information regarding another device, which has released a connection established by the present device to inform the device control section of the other devices connected by the digital interface (claims 5-10). See col.5, lines 24 – 54 and Figs.6, 10.C and 10.D.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito as applied to claims 11 and 20 above in view of Lym et al (U.S. Patent Number 6,631,435) hereinafter referred to as Lym.

With respect to the claim rejection applied to claims 11 and 20 above, Saito substantially disclosed the invention as claimed. However, Saito did not expressly teach establishing or terminating a connection in response to the connection management command transmitted indicating a change of a bit field in an input or output plug control register.

Lym disclosed establishing and terminating a connection between devices based on the received status of a device showing a change in state of a plug in a device. Indicating if a device with a bit field showed on-line or off-line state or any other field representing payload, a P2P connection counter and/or other bit fields and based on the indicated status change, a device terminated its connection or established a connection upon a change in the status of a plug control register. For example, if a bit field showed off-line which meant that a device was not powered or else was unavailable. See col.5, lines 1-13, and col. 49, lines 48-67 – col. 50, lines 1-67 and col. 51, lines 1-54.

An artisan who was aware of Saito's invention related to a connection control apparatus would have been motivated to look for teachings that may have allowed establishing or terminating a connection when a controller indicated that a connected device show changes regarding its status notifying a device any state changes on a connected plug, ensuring the device was informed about the state status changes by in

Art Unit: 2142

order to establish or terminate a connection to manage the data flow. See col.51, lines 42-54.

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to take the teachings of Lym related to terminating or establishing a connection between devices based on status changes in the plug control register and have modified Saito related to connection control apparatus, because such a modification would help identify an active and inactive devices connected to a digital interface and accordingly to transmit data contents only to a device with an active (on-line) plug status. See col.5, lines 1-13.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

a. Hata et al (U.S. Patent Number 6,591,313) disclosed a method of receiving and transmitting AV data via a Firewire (IEEE 1394 bus).

b. Barry et al. (U.S. Patent Number 6,591,419) disclosed a method of transmitting a transport stream over an IEEE 1394 Serial Bus.

c. Saito et al. (U.S. Patent Number 6,523,696) disclosed a communication control device-notifying unit for notifying the service information to a device connected in a network.

- d. Kawamura et al. (U.S. Patent Number 6,493,769) disclosed a stream information processing and method where devices are connected through digital interface (IEEE 1394) and controlling formats of oPCR and iPCR.
- e. Humpleman et al (U.S. Patent Number 6,466,971) disclosed a method and system for device-to-device command and control in a network.
- f. Muraki et al. (U.S. Patent Number 6,429,364) disclosed a method for transmitting and receiving data.
- g. Kato et al. (U.S. Patent Number 6,397,277) disclosed a method and apparatus for transmitting data among devices connected to a serial data bus at maximum speed.
- h. Gibbs et al. (U.S. Patent Number 6,169,725) disclosed an apparatus and method for the restoration of internal connections of consumer electronic devices in a home audio/video network by maintaining and managing connections of the devices according to their status (active or inactive).
- i. Zou, Feng (Frank) (U.S. Patent Number 6,160,796) disclosed a method and system for updating device identification and status information after a local bus reset within a home audio/video network.

NON PATENT DOCUMENTS

- j. Yamaha Corporation, "Audio and Music Protocol", Retrieved from the World Wide Web, Preliminary proposal, August 1996.
- k. Philips Semiconductors, "Digital Video and Audio using IEC 61883", Retrieved from the World Wide Web, undated.

Art Unit: 2142

I. Trade Association, "AV/C Digital Interface Command Set- General Specification",
Version 3.0, published April 15, 1998.

10. Any inquiry concerning this communication or earlier communication from the
examiner should be directed to Yemane Gerezgiher whose telephone number is 703-
305-4874. The examiner can normally be reached on Monday- Friday from 9:00 AM to
5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful. The examiner's
supervisor, David A. Wiley, can be reached at 703-308-5221.

Yemane Gerezgiher
Patent Examiner
AU 2142

November 6, 2003

MARC D. THOMPSON
MARC THOMPSON
PRIMARY EXAMINER